



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1080
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/626,839	07/25/2003	Ji-hyun In	Q76648	9261

23373 7590 12/09/2005

SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER

BRADLEY, MATTHEW A

ART UNIT PAPER NUMBER

2187

DATE MAILED: 12/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/626,839

Applicant(s)

IN ET AL.

Examiner

Matthew Bradley

Art Unit

2187

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 11-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/15/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Claims 11-22 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected inventions, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 17 November 2005.

Applicant's election without traverse of claims 1-10 in the reply filed on 17 November 2005 is acknowledged.

Claim Status

Claims 1-10 remain pending in the instant application and are ready for examination.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 15 October 2004 was filed after the filing date of 25 July 2003 for application 10/626,839. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the Examiner is considering the information disclosure statement with a signed and initialed copy being attached hereto.

Drawings

The drawings are objected to because:

- Figure 6B contains the word "Mappine"
- Figure 7 in step S750 contains the word "Atea"
- Figure 14 in step S1470 contains the word "Chanin".

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, **without underlining** or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

Art Unit: 2187

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim **10** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant

Art Unit: 2187

regards as the invention. The Examiner is unsure of the intended meaning by the recitation of "if all of the pages of the first block are **recorded**." The usage of the term recorded is used previously to indicate the recording of a mapping table into a first block. Does this usage of recorded imply that all pages of the first block are being recorded, as in a backup, or does this usage of recorded imply that all pages of the first block are used and an additional block is required? Further explanation is required to prevent a miss-interpretation.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-9 are rejected under 35 U.S.C. 102(a) and (e) as being anticipated by Kim (U.S. 6,587,915)

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in

the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

As per independent claim 1, Kim teaches,

- if changing of data of a data block recorded in a data area is requested,
(Column 10 line 6-13) *The Examiner notes that an "update operation" is taught by Kim and accordingly 'changes data.'*
- recording the data block having changed data in an alternative area
(Column 10 lines 48-51) *The Examiner notes that the "spare block" of Kim is an 'alternative area' for which to record the block.*
- and recording mapping information of the data block recorded in the alternative area in a mapping area; (Column 10 lines 48-51). *The Examiner notes that the 'mapping area' that is instantly claimed, is taught by Kim with the recitation of "mapping information" which is recorded in a respective mapping area.*
- and if changing of data of the data block recorded in the alternative area is requested, (Column 10 lines 33-36). *The Examiner notes that the data blocks of Kim that are not allocated are data blocks that have yet to be utilized in the spare area.*
- recording a data block having changed data in the data area and (Column 10 lines 33-44)
- deleting the mapping information recorded in the alternative area from the mapping area. (Column 10 lines 33-44).

As per dependent claim 2, Kim teaches, wherein the mapping information is a logical block number of the data block (Column 9 lines 11-14).

As per dependent claim 3, Kim teaches, wherein if the changed data of the data block are recorded in the alternative area, the changed data are recorded in a temporary block of the alternative area (Column 10 lines 33-44). *The Examiner notes that data written to any block, or spare blocks as taught by Kim, is in fact temporary as the data may easily be erased or overwritten from subsequent writes.*

As per dependent claim 4, Kim teaches, wherein if the changed data of the data block are recorded in the data area, the changed data are recorded in a location of the data area corresponding to a logical block number of the data block (Column 7 lines 28-32).

As per independent claim 5, Kim teaches,

- receiving a data block write request in the flash memory; searching mapping information on the data block to be requested to write in the mapping area; (Column 10 lines 21-26)
- if there is no mapping information on the data block to be requested to write, writing the data block to be requested to write in the alternative area and recording the mapping information on the data block in the mapping area; and (Column 10 lines 33-44)
- if there is mapping information on the data block to be requested to write, writing the data block to be requested to write in the data area and

deleting the mapping information on the data block to be requested to write from the mapping area. (Column 10 lines 27-32).

As per independent claim 6, Kim teaches,

- receiving a data block read request in the flash memory; searching mapping information on the data block to be requested to read in the mapping area; (Column 10 lines 21-26)
- if there is no mapping information on the data block to be requested to read, reading the data block to be requested to read from the data area; and (Column 10 lines 33-44)
- if there is mapping information on the data block to be requested to read, reading the data block to be requested to read from the alternative area. (Column 10 lines 27-32).

As per independent claim 7, Kim teaches,

- the alternative area in which the changed data of the data block are recorded when changing of data of the data block recorded in the data area is requested; and (Column 8 lines 1-5)
- a mapping area in which a mapping table containing mapping information of the data block recorded in the alternative area is recorded and from which the mapping information of the data block is removed when the changed data of the data block are recorded in the data area. (Column 7 lines 47-59)

As per dependent claim 8, Kim teaches, further comprising a master block containing information on the data area, the alternative area, and the mapping area (Column 7 lines 40-45). *The Examiner notes that Kim teaches a "header block" which has information written into it for the entire flash memory.*

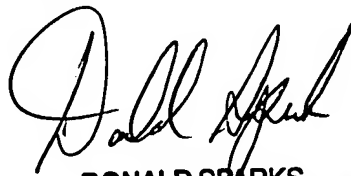
As per dependent claim 9, Kim teaches, wherein a physical block number of the data block existing in the data area corresponds to a logical block number on a one-to-one basis (Column 7 lines 28-32).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew Bradley whose telephone number is (571) 272-8575. The examiner can normally be reached on 6:30-3:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald A. Sparks can be reached on (571) 272-4201. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


DONALD SPARKS
SUPERVISORY PATENT EXAMINER